

1. (Currently Amended) An earth-boring bit, comprising:

a bit body;

a cantilevered bearing pin depending from the bit body;

a cone mounted for rotation on the bearing pin; and

a bearing surface between the cone and the bearing pin, the bearing surface being formed

of a steel alloy and having a diamond-like coating ~~formed~~ deposited thereon.

2. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating has a thickness in the range from 1 to 10 micrometers.

3. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating has a thickness in the range from 2 to 5 micrometers.

4. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating has a thickness in the range from 2 to 3 micrometers.

5. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating has a Knoop Scale hardness in the range from 2000 to 5000.

6. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating is of carbon with a mixture of sp³ and sp² bonds between atoms of the carbon.

7. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating is formed of amorphous and hydrogenated amorphous carbon.
8. (Previously Presented) The bit according to claim 1, wherein the diamond-like coating is doped with an alloying element from the group consisting essentially of silicon, boron and boron nitride and a refractory metallic element from the group consisting essentially of tantalum, titanium, tungsten, niobium and zirconium.
9. (Currently Amended) The bit according to claim 1, further comprising a thrust washer formed of the steel alloy and located between a thrust shoulder of the bearing pin and the cone, the bearing surface containing the diamond-like coating being deposited on at least one side of the thrust washer.
10. (Currently Amended) The bit according to claim 1, further comprising a sleeve formed of the steel alloy and located between the bearing pin and the cone, the bearing surface containing the diamond-like coating being deposited on at least one side of the sleeve.
11. (Currently Amended) The bit according to claim 1, further comprising a single thrust washer having one side in contact with a thrust shoulder formed on the bearing pin and another side in contact with a thrust surface formed in the cone, and a single sleeve having one side in contact with the bearing pin and another side in contact with the cone, the bearing surface containing the diamond-like coating being deposited on at least one of the sides of the thrust washer and on at least one of the sides of the sleeve.

12. (Currently Amended) The bit according to claim 1, wherein the bearing surface having the diamond-like coating is ~~formed~~ deposited on a journal surface of the bearing pin.

13. (Currently Amended) The bit according to claim 1, wherein the bearing surface having the diamond-like coating is ~~formed~~ deposited within a cavity of the cone.

14. (Currently Amended) An earth-boring bit, comprising:

a bit body;

a cantilevered bearing pin depending from the bit body, the bearing pin having a thrust shoulder that is in a plane perpendicular to the axis of the bearing pin;

a cone mounted for rotation on the bearing pin, the cone having a thrust shoulder facing toward the thrust shoulder of the bearing pin; and

a single thrust washer having opposite sides in engagement with the thrust shoulders of the bearing pin and the cone, the thrust washer being formed of a steel alloy and having a diamond-like coating ~~formed~~ deposited thereon on at least one of the sides.

15. (Currently Amended) The bit according to claim 14, wherein the diamond-like coating is ~~formed~~ deposited on both sides of the thrust washer.

16. (Previously Presented) The bit according to claim 14, wherein the thrust shoulder of the bearing pin is formed of a steel alloy and contains an inlay of a hard wear resistant material.

17. (Previously Presented) The bit according to claim 14, wherein the thrust shoulder of the bearing pin is formed of a steel alloy and has a diamond-like coating ~~formed~~ deposited thereon.

18. (Original) The bit according to claim 14, wherein the coating is of carbon with a mixture of sp³ and sp² bonds between atoms of the carbon.

19. (Original) The bit according to claim 14, wherein the coating is formed of amorphous and hydrogenated amorphous carbon.

20. (Previously Presented) The bit according to claim 14, wherein the diamond-like coating is doped with an alloying element from the group consisting essentially of silicon, boron and boron nitride and a refractory metallic element from the group consisting essentially of tantalum, titanium, tungsten, niobium and zirconium.

21. (Currently Amended) An earth-boring bit, comprising:

a bit body;

a cantilevered bearing pin depending from the bit body;

a cone mounted for rotation on the bearing pin; and

a single sleeve having an inner diameter side in contact with the bearing pin and an outer diameter side in contact with a cavity surface in the cone, the sleeve being formed of a steel alloy and having a diamond-like coating ~~formed~~ deposited thereon that is on at least one of the sides.

22. (Currently Amended) The bit according to claim 21, wherein the diamond-like coating is deposited on both sides of the sleeve.

23. (Currently Amended) The bit according to claim 21, wherein the bearing pin is formed of a steel alloy and also contains a diamond-like coating deposited thereon.

24. (Currently Amended) The bit according to claim 21, wherein the cone is formed of a steel alloy, and the cavity surface of the cone also contains a diamond-like coating deposited thereon.